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Ryan, Mason & Lewis, LLP
90 Forest Avenue
Locust Valley, NY 11560

EXAMINER

SILVER, DAVID

ART UNIT	PAPER NUMBER
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2128

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/722,651

Applicant(s)

KHAN ALICHERRY ET AL.

Examiner

David Silver

Art Unit

2128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 9/27/07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Art Unit: 2128

DETAILED ACTION

1. The Instant Office Action is in response to a Request for Continued Examination filed 10/15/2007.
2. Claims 1-29 were originally presented for examination.
3. Claims 1-7 9 10 12-21 23 24 and 26-29 were rejected.
4. Claims 8 11 22 and 25 were indicated to have allowable subject matter.
5. Upon further consideration the indication of allowable subject matter is being withdrawn for the reasons set-forth below.
6. Claims 1-29 are currently pending in Instant Application.

Priority

7. Priority is not claimed (**Effective Filing: 11/26/2003**).

Information Disclosure Statement

8. The information disclosure statement(s) (IDS) submitted on 9/27/2007 is/are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement(s) is/are being considered if signed and initialed by the Examiner.

Response to Arguments

Response: 35 U.S.C. § 102/103

9. Examiner Response:

Applicants' arguments have been fully considered but are unpersuasive and fully traversed. However, the arguments are moot in view of new grounds of rejection set-forth below.

Withdrawn Reasons for Allowance / Claim Interpretation

MPEP 2111.04 [R-3] "Adapted to," "Adapted for," "Wherein," and "Whereby" Clauses

Claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure. However, examples of claim language, although not exhaustive, that may raise a question as to the limiting effect of the language in a claim are: (A) "adapted to" or "adapted for" clauses; (B) "wherein" clauses; and (C) "whereby" clauses. The determination of whether each of these clauses is a limitation in a claim depends on the specific facts of the case. In *Hoffer v. Microsoft Corp.*, 405 F.3d 1326, 1329, 74 USPQ2d 1481, 1483 (Fed. Cir. 2005), the court held that when a "whereby" clause states a condition that is material to patentability, it cannot be ignored in order to change the substance of the invention." *Id.* However, the court noted (quoting *Minton v. Nat'l Ass'n of Securities Dealers, Inc.*, 336 F.3d 1373, 1381, 67 USPQ2d 1614, 1620 (Fed. Cir. 2003)) that a "**whereby clause in a method claim is not given weight when it simply expresses the intended result of a process step positively recited.**" *Id.* < (emphasis added)

Art Unit: 2128

10. In view of the MPEP citation above and further consideration of claims 8, 11, 22, and 25, it is determined that the "wherein" clauses are merely intended use as they do not positively recite neither structural nor functional limitations. The wherein clauses reciting the measurement of big-oh notation are analogous to having a claim with a wherein clause reciting that something is measurable with inches, light-years, etc. Accordingly, unless the actual structure of function that requires the measurement is recited, the wherein clauses are not given patentable weight.

Furthermore, as per claims 15, 22 and 25, the phrase "operative to" is deficiencies because: 1) is it unclear whether the "operative to" refers to the processor or the memory 2) being "operative to" neither stores, nor executes the software instructions but merely recites intended use, which is not given patentable weight.

Claim Objections

11. Applicant is advised that should claim 1, 10 be found allowable, claim 29, 11 (respectively) will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). See "Withdrawn Reasons for Allowance / Claim Interpretation" section above.
12. Claim 7, 9, 21, 23 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claims recite intended use and do not further limit their respective parent claims.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

13. Claims 1-29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-

Art Unit: 2128

statutory subject matter.

MPEP 2106.01 recites, in part:

When a computer program is claimed in a process where the computer is executing the computer program's instructions, USPTO personnel should treat the claim as a process claim. ** When a computer program is recited in conjunction with a physical structure, such as a computer memory, USPTO personnel should treat the claim as a product claim.

- 13.1 Regarding claims 15, 22 and 25, in view of MPEP 2106.01 citation *supra*, the statutory category of the claims is unknown and is therefore drawn to non-statutory subject matter. Specifically, the claims recite two deficiencies: 1) is it unclear whether the "operative to" refers to the processor or the memory 2) being "operative to" neither stores, nor executes the software instructions but merely recites intended use, which is not given patentable weight. See MPEP 2111.04.

MPEP 2106 recites, in part:

"...USPTO personnel shall review the claim to determine it produces a useful, tangible, and concrete result. In making this determination, the focus is not on whether the steps taken to achieve a particular result are useful, tangible, and concrete, but rather on whether the *final* result achieved by the claimed invention is "useful, tangible, and concrete." (emphasis added)

- 13.2 Regarding claim 1, 8, and 11, the "method" claims do not produce a useful, tangible, and concrete **final** result. The claims are additionally not drawn to a practical real-world application but merely an abstract idea. The claimed representation is not limited to a tangible, concrete, and useful final result. Furthermore, it is unclear where the "representation" takes place or if it is even result or merely an internal representation which is just an abstract mathematical calculation.
- Furthermore, the claimed steps are merely software processes as disclosed in the Spec PGPUB (**para 97**): "Accordingly, one or more computer programs, or software components thereof, including instructions or code for performing the methodologies of the invention, as described herein, may be stored in one or more of the associated storage media (e.g., ROM, fixed or removable storage) and, when ready to be utilized, loaded in whole or in part (e.g., into RAM) and executed by the processor 502." It is however noted that the software program instructions recited in claim 1, 8, and 11 are not *embodied* on a **tangible** computer readable medium nor *executed* by a computer.

Therefore, additionally deficiency recited above, the statutory category for the claims is unknown.

- 13.3 Claim 29 is deficient for the above reasons, and the following. The "computer readable medium"

Art Unit: 2128

is recited in the preamble which is not given patentable weight. However, even if it were given patentable weight by moving it into the claim body, the "computer readable medium" can be drawn to transmission media as detailed in Spec PGPUB (**para 96**): "The term "computer readable media" as used herein is intended to include [...] transmission-type media, such as digital or analog communication links, wired or wireless communication links using transmission forms, such as, for example, radio frequency and optical transmissions, etc."

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

14. Claims 1-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the **enablement requirement**. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As per claims 9 and 23, what does it mean to be "polynomially computable"? Does this merely provide an ability to be computed, or does it somehow limit the claim.

As per claims 1, 8, 11, 15, 22, 25, and 29, the term "the one or more demands are routed" is not enabled. Specifically, how is a "demand" routed?

As per claim 2 and similar claims, the term "colors in higher sets cost more" is not enabled. Specifically, how can a color cost more?

Further, what determines whether a color is part of a higher or lower set?

As per claims 4 and 18, the term "the cost of a link in a coloring" is not enabled. Specifically, the meaning of this phrase cannot be ascertained. What is the cost of a coloring?

15. Claim 12-28 are rejected under 35 U.S.C. 112, second paragraph, as being **indefinite** for failing to

Art Unit: 2128

particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claims 15, 22 and 25, in view of MPEP 2106.01, the claims contain an ambiguity which renders the claims indefinite. Specifically, is it unclear whether the "operative to" refers to the processor or the memory. The metes and bounds of the claim cannot be ascertained.

Claims 4 and 18 lack antecedent basis for " the cost of a link ".

16. Claims not specifically mentioned are rejected by virtue of their dependency.

17. The Applicants are required to fix all other similar occurrences of the above-cited deficiencies.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

18. Claims 1-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Arquie (**US 20040061701**).

(Claim language that is *italicized* has been interpreted as being drawn to intended use and is not given patentable weight. Such formatting is merely exemplary and not exhaustive. See MPEP 2111.04 and Claim Interpretation section above.)

Arquie discloses: 1. A method of designing a line system, the method comprising the steps of:

obtaining a set of one or more demands *for use in computing the line system design*, wherein the one or more demands comprise one or more bandwidth requests (para 38); and

representing the line system design as a graph in accordance with a graph coloring operation wherein colors represent bandwidths such that bandwidths are assigned and the one or more demands are routed *so as to attempt to achieve a minimum total design cost (para 13 "adding color [] such that particular performance ranges are essentially color-coded.")*.

Art Unit: 2128

Arquie discloses: 2. The method of claim 1, wherein colors are partitioned in sets and the sets are ordered so that colors in higher sets cost more than colors in lower sets (**para 13 "adding color [] such that particular performance ranges are essentially color-coded."**).

Arquie discloses: 3. The method of claim 2, wherein a link of the graph represents a location of a component of the line system being designed (**Fig 6, 7 and description**).

Arquie discloses: 4. The method of claim 3, wherein the cost of a link in a coloring is equal to the cost of the most expensive set such that a demand going through the link is colored with a color in the most expensive set (**para 57 -"The selected "device" for such monitoring can simply be the one with a selected amount of traffic (such as "show me the highest (lowest or other ranking) device and contributors")."**).

Arquie discloses: 5. The method of claim 3, further wherein colors are assigned to the demands such that no two demands routed on the same link of the graph are assigned the same color (**para 53, 57**).

Arquie discloses: 6. The method of claim 1, wherein the line system being designed is a linear line system (**para 12, Fig 4 exemplary item 435/434 and description**).

Arquie discloses: 7. The method of claim 6, wherein the line system design is represented by an interval graph (**Fig 4, 5, 6, 7 and descriptions**).

As per claim 8, note the rejection of claim 1 above. The Instant Claim recites substantially same limitations as the above-rejected claim and is therefore rejected under same prior-art teachings.

Arquie discloses: 9. The method of claim 1, *wherein the graph coloring operation is polynomially computable (Fig 7 - Legend)*.

Arquie discloses: 10. The method of claim 1, wherein the line system being designed is a circular line system (**Fig 7 group 2 - "LOOP"**).

As per claims 11, note the rejection of claims 10 above. The Instant Claims recite substantially same limitations as the above-rejected claims and are therefore rejected under same prior-art teachings.

As per claims 12, note the rejection of claim 3 above. The Instant Claims recite substantially same limitations as the above-rejected claim and are therefore rejected under same prior-art teachings.

Art Unit: 2128

As per claims 13, note the rejection of claim 5 above. The Instant Claims recite substantially same limitations as the above-rejected claim and are therefore rejected under same prior-art teachings.

Arquie discloses: 14. The method of claim 1, wherein the line system being designed is an optical line system (**para 27 "includes connection infrastructure that is usually standards-based, such as based on the Fibre Channel standard, and includes optical fiber"**).

As per claims 15-29, note the rejection of claims 1-7, 1, 9-10, 10, 3, 5, 14, 1 (respectively) above. The Instant Claims recite substantially same limitations as the above-rejected claims and are therefore rejected under same prior-art teachings.

As per claims 15, 22, and 25, the language following the "operative to" is interpreted as *intended use* and is not given patentable weight.

Support for Amendments and Newly Added Claims

19. Applicants are respectfully requested, in the event of an amendment to claims or submission of new claims, that such claims and their limitations be directly mapped to the specification, which provides support for the subject matter. This will assist in expediting compact prosecution. MPEP 714.02 recites: "Applicant should also specifically point out the support for any amendments made to the disclosure. See MPEP § 2163.06. An amendment which does not comply with the provisions of 37 CFR 1.121(b), (c), (d), and (h) may be held not fully responsive. See MPEP § 714." **Amendments not pointing to specific support in the disclosure may be deemed as not complying with provisions of 37 C.F.R. 1.131(b), (c), (d), and (h) and therefore held not fully responsive.** Generic statements such as "Applicants believe no new matter has been introduced" may be deemed insufficient.

Requests for Interview

20. In accordance with 37 CFR 1.133(a)(3), requests for interview must be made in advance.

Interview requests are to be made by telephone (571-272-8634) call or FAX (571-273-8634). Applicants must provide a detailed agenda as to what will be discussed (generic statement such as "discuss §102 rejection" or "discuss rejections of claims 1-3" may be denied interview). The detail agenda along with

Art Unit: 2128

any proposed amendments is to be written on a PTOL-413A or a custom form and should be faxed (or emailed, subject to MPEP 713.01.I / MPEP 502.03) to the Examiner at least 3 days prior to the scheduled interview.

Interview requests submitted within amendments may be denied because the Examiner was not notified, in advance, of the Applicant Initiated Interview Request and due to time constraints may not be able to review the interview request to prior to the mailing of the next Office Action.

Conclusion


21. All claims are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Silver whose telephone number is (571) 272-8634. The examiner can normally be reached on Monday thru Friday, 10am to 6:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on 571-272-2279. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/ DS /

David Silver, Patent Examiner
Art Unit 2128


KAMINI SHAH
SUPERVISORY PATENT EXAMINER